Update of the:

HATFIELD MODEL

Version 2.2
Release 1

Prepared for:

AT&T CORP

and

MCI TELECOMMUNICATIONS CORPORATION

by

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I. OVERVIEW

This document describes the several updates that Hatfield Associates, Inc. ("HAI") have performed to the "Hatfield Model Version 2.2, Release 1" ("HM"), since it was first released on May 16, 1996.[1] In addition, this document provides illustrative numeric upper bound estimates for 49 state jurisdictions of the Total Service Long Run Incremental Costs ("TSLRICs") for each of the eleven Basic Network Functions ("BNFs") used to provide narrowband local telephone services.[2] Finally, this document places these numeric results in context to other TSLRIC results produced by earlier versions of the HM, as well as in context to "TSLRIC" estimates that may have been proffered in other regulatory proceedings.[3] In particular, these other estimates may not be commensurable with the TSLRIC estimates of the eleven BNFs measured here. Often, these other estimates have attempted to cost more limited (or more expansive) definitions of the local network, or only subsets of the services (e.g., residential "universal service") that the local network is used to provide.

II. MODIFICATIONS TO THE MODEL

A. LOGIC MODIFICATIONS

As indicated in the May 16th documentation, the HM has now been updated to better reflect the scalability of tandem switch processors, the possible location of tandem switches in the same buildings as end office switches, and the use of partitioned switches to provide both end office and tandem switching functions from the same machine.[4] With these updates, the model's estimates for tandem switching TSLRICs display a more normal relationship to the cost of end office switching.[5]

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1 As discussed in the documentation that accompanied the May 16, 1996 release, the HM is a flexible tool for estimating the economic costs of providing telephone service to business and residence users throughout the United State constructed by HAI for AT&T Corp. ("AT&T") and MCI Telecommunications Corporation ("MCI")

2 These eleven BNFs exhaust all of the network functions used to provide narrowband local service, intraLATA toll service, and carrier access service. For a fuller description of these BNFs and the services that they can be used to provide, see the May 16th documentation.

3 HAI is unaware of any other TSLRIC model of unbundled local network elements that has been submitted in CC Docket No. 96-98.

4 Many tandem switches are not stand-alone switching machines, but are partitioned end office switches.

5 Because this modification reduced the cost of tandem switching, the model's computations of optimal use levels and costs of common and dedicated transport were affected as well.

In addition to updating the tandem switching logic, HAI, has used new information to adjust the assumed length of dedicated transport legs for local, toll and access service to reflect more accurately the typical distances of these circuits. Adjustments have also been performed to capture more accurately the portion of interoffice local traffic that is direct-trunked and the portion of local traffic that is intraoffice.

B. DATA MODIFICATIONS

An update to the input data used in these model runs was to substitute 1995 ARMIS data (filed April 1, 1996) for the older 1994 ARMIS data that were used in the May 16th release. These new data generally affect the model's calculations because of the very substantial growth in customer access lines that the local exchange carriers ("LECs") reported in 1995.

III. ILLUSTRATIVE MODEL RESULTS

A. DESCRIPTION

The tables accompanying this document display numeric TSLRIC estimates for all eleven BNFs that comprise the LECs' local networks. In addition to these TSLRIC estimates, the number of units of each BNF produced is displayed along with the BNF's TSLRIC on a per-unit basis. In addition, the model computes the per unit TSLRIC for the bundle of all eleven switched network BNFs

These numeric results are displayed for the major LEC in each of 48 state jurisdictions plus the District of Columbia. The major LEC is typically the Bell Operating Company in all states except Connecticut, in which it is Southern New England Telephone. Results are not available for Alaska or Hawaii.

The cost modeling for each LEC/Jurisdiction was performed in exactly the same fashion. The only source of difference in each LEC/Jurisdiction's TSLRIC calculations was the differences in the values of the demographic, geological, network structure and customer demand input data that were used to characterize each LEC/Jurisdiction. As discussed further below, although running the model identically across all states may limit its ability to capture any idiosyncratic characteristics of each LEC/Jurisdiction, it provides a benchmark for comparing how the uncustomized model operates on a national basis.

B. DISCUSSION

These numeric outputs from the HM accord well with other analyses of network element TSLRICs. As with any model of this type, however, there are likely to be additional useful refinements to the model or its inputs.

In particular, adjustments to the model's initial estimates for the TSLRICs of end office switching in Nebraska, signaling links in Delaware, and common transport in the District of Columbia may be appropriate. The extreme values for these variables in these jurisdictions may be the result of data errors in the location or number of certain switches, or in demand. Similarly, it is known that consistency problems may exist with certain data describing U S West's network and demands. This is due to the substantial number of exchanges that U S West has divested over the past several years. As a result, it is unclear whether the data used to characterize several U S West jurisdictions are used consistently.[6] HAI will investigate all of these issues and any others that may arise, and make adjustments, where found appropriate.

IV. CONTEXT WITH OTHER MODELING

As indicated earlier, the numeric results presented with this document provide a nationwide illustration of conservative upper bound TSLRIC values generated by the HM using publicly available demographic, geological, network and demand data -- without any customization to reflect unique characteristics of particular LEC/Jurisdictions. To the extent these data are insufficient to describe all of the rich differences between different states, more detailed, state-specific restrictions should be incorporated into the HM. Because the LECs predominantly are in control of such data, their cooperation in making these data publicly available will be extremely important to help improve modeling accuracy. Because these "national" TSLRIC estimates provide only upper bound figures for actual TSLRIC levels, the incorporation of better state/LEC-specific data should cause these estimates to converge downward towards even more accurate values.

A. WITH OTHER "HATFIELD" MODELS

As described in the May 16th documentation of the HM, Version 2.2 is based on different data from earlier versions, and may model different characteristics of local exchange networks and services. In particular, Version 2.2 uses newer 1995 data on customer demand for lines and minutes and on LEC network topologies. This version also incorporates updated methodologies for computing "structure" costs associated with the placement of outside plant. But most importantly, different versions of the HM were designed to accomplish different tasks.[7] Most typically, previous versions of the HM were designed to be used in state or federal regulatory proceedings to identify the costs of

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6 Because the exchanges that U S West divested were generally their highest cost exchanges, lack of appropriate adjustment for these sales may bias upward the estimates of certain U S West TSLRICs. In addition, these divestitures will cause the network structure assumed by the model (e.g., location of served CBGs, switches, etc.) to change, thus changing other costs estimates.

7 See, page 1, footnote 1 of the May 16 document for an outline of the differences between the various previous versions of the HM.

"basic local service" or to size subsidies that may be required to ensure "universal" service. As such, these versions appropriately may not have modeled the costs of providing intraLATA toll service, carrier access service, or operator services. The network architectures and requirements for switching, transport and signaling for such services may differ as well. These purposes are in contrast to the purpose of Version 2.2, which is to cost the eleven unbundled local network elements. For these reasons, it may be difficult (and potentially fruitless) to compare numerical results generated by this model with those generated by previous versions.

B. WITH OTHER "TSLRIC" RESULTS

Similarly, it may be difficult to concord these results with "TSLRIC" results from other parties' models proffered in regulatory proceedings. This may be because the parties submitting such results may have different definitions for TSLRIC. In particular, the HM assumes TSLRICs that are characterized by:

- The new construction of a high quality network that incorporates copper distribution loops with copper or fiber feeder, digital switching, SS7 signaling, and all fiber interoffice transport. Other available estimates of LEC costs may assume a lower quality network, (e.g., loaded copper loops, mix of analog and digital switching, MF signaling, copper/coax/microwave interoffice transport).

- The construction of a network with the capacity to serve all narrowband switched and dedicated (residence and business) local, intraLATA toll and access service demand in the examined region. Some parties' estimates of TSLRIC may cost a network that provides only a subset of these services -- while other parties' estimates may include costs of over-built networks capable of providing video services or long distance services in addition to narrowband local services.

- The HM estimates TSLRICs consistently for the full set of eleven BNFs that comprise the LEC's complete set of unbundled switched network elements. Other models may estimate TSLRIC for only an individual BNF, or for a small group of BNFs. In addition, these other models may not define BNFs in identical fashion to HM definitions (e.g., they may fail to define a BNF to include the normal costs of installation, provisioning, maintenance, and interconnection to adjacent BNFs).[8]

In sum, unless these other estimates of TSLRIC are performed with respect to same definition of BNFs, are costed using the same methodology, and are based on the same model data inputs, the numeric results from this HM should not be expected to accord precisely with other figures existing in regulatory records.

[8] In addition, confusion may result when a cost estimate is termed to be a "TSLRIC" cost estimate, but in actuality includes only costs that would be included in a LRIC estimate.

V. SUMMARY

The HM develops estimates of economic costs through an engineering model designed to specify the network structure that can provide most efficiently narrowband local telephone services to all customers. As such, it conforms to TSLRIC costing rules and standards. The HM adopts realistic, but conservative, assumptions concerning the factors influencing prospective network costs to ensure that its economic cost estimates are reasonable and reflective of efficient LEC construction planning processes. Because of the conservative nature of its assumptions, the HM estimates establish a reliable upper bound to the true TSLRICs of these LEC network elements.

The Hatfield Model is flexible. It uses public information, but may accept substitute proprietary or company-specific information. Based purely on nationally available public information, it produces TSLRIC results that are very reasonable. But, the incorporation of richer, state-specific data or modeling logic will likely reveal even more economical network architectures to serve customer demand. Because of this, efforts should be made to secure this extra information. As such better data or improved logic become available, HAI will update this model to incorporate these advances.

COST OF NETWORK ELEMENTS

Alabama *BELLSOUTH TELECOMM INC - AL*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$6,885,306	$95,506,424	$39,816,125	$11,165,190	$57,738,829	$9,368,332	$220,480,205
Unit Cost/month	$30.38	$14.37	$8.73	$7.61	$7.15	$6.48	$9.83
Loop Concentration							
Annual Cost	$2,202,401	$30,179,233	$16,285,102	$3,427,283	$15,481,114	$1,604,998	$69,180,132
Unit Cost/month	$9.72	$4.54	$3.57	$2.34	$1.92	$1.11	$3.08
Loop Feeder							
Annual Cost	$431,731	$3,497,189	$1.742,798	$808,786	$7,203,054	$1,388,604	$15,072,162
Unit Cost/month	$1.90	$0.53	$0.38	$0.55	$0.89	$0.96	$0.67
Total Loop							
Annual Cost	$9,519,438	$129,182,846	$57,844,026	$15,401,259	$80,422,998	$12,361,934	$304,732,499
Unit Cost/month	$42.00	$19.44	$12.68	$10.49	$9.96	$8.55	$13.59
Total lines	18,886	553,869	380,130	122,306	673,013	120,527	1,868,730
Lines served by Digital Loop Carrier	18,886	543,166	286,242	58,201	261,133	26,673	1,194,302

	Annual Cost	Units		Unit Cost	
End office switching	$87,693,709				
1 Port	$26,308,113	1,696,824	Switched lines	$1.29	per line/month
2. Usage	$61,385,596	34,367,298,225	Minutes	$0.0018	per minute
Signaling network elements	$10,832,370				
1. Links	$69,944	302	Links	$19.30	per link/month
2. STP	$9,615,211	27,542,020,933	TCAP+ISUP messages	$0.0003	per message
3. SCP	$1,147,216	1,780,545,000	TCAP messages	$0.0006	per message
Transport network elements					
1. Dedicated	$62,544,388	308,992	Trunks	$16.87	per DS-0 equivalent/month
Switched	$27,748,183	137,086	Trunks	$0.0017	per minute
Special	$34,796,206	171,906	Trunks		
2. Common	$2,787,144	1,883,680,818	Minutes	$0.0021	per minute per leg (orig or term)
3. Tandem switch	$2,173,347	1,560,949,069	Minutes	$0.0014	per minute
Operator systems	$3,781,846				
Total	$446,861,325				

Total cost of switched network elements $20.22 per line/month

COST OF NETWORK ELEMENTS

Arizona *MOUNTAIN BELL - AZ*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$20,796,030	$28,950,782	$18,575,076	$7,261,481	$78,194,557	$39,567,270	$193,345,196
Unit Cost/month	$35.09	$11.49	$6.40	$5.45	$5.02	$4.49	$6.10
Loop Concentration							
Annual Cost	$5,163,960	$10,253,370	$8,937,979	$3,575,936	$37,100,795	$19,034,928	$84,066,968
Unit Cost/month	$8.71	$4.07	$3.08	$2.69	$2.38	$2.16	$2.65
Loop Feeder							
Annual Cost	$1,570,112	$1,139,553	$1,111,610	$641,000	$9,896,588	$6,091,994	$20,450,857
Unit Cost/month	$2.65	$0.45	$0.38	$0.48	$0.64	$0.69	$0.64
Total Loop							
Annual Cost	$27,530,102	$40,343,705	$28,624,666	$11,478,416	$125,191,940	$64,694,192	$297,863,021
Unit Cost/month	$46.45	$16.01	$9.87	$8.62	$8.04	$7.35	$9.39
Total lines	49,392	210,047	241,769	110,940	1,297,513	733,790	2,643,452
Lines served by Digital Loop Carrier	49,392	201,776	168,383	66,910	694,433	358,453	1,539,346

	Annual Cost	Units		Unit Cost	
End office switching	$132,895,271				
1. Port	$39,868,581	2,233,505	Switched lines	$1.49	per line/month
2. Usage	$93,026,689	35,584,873,424	Minutes	$0.0026	per minute
Signaling network elements	$8,198,940				
1. Links	$72,392	332	Links	$18.17	per link/month
2. STP	$6,653,505	26,436,016,685	TCAP+ISUP messages	$0.0003	per message
3. SCP	$1,473,043	1,922,438,200	TCAP messages	$0.0008	per message
Transport network elements					
1. Dedicated	$85,723,654	566,856	Trunks	$12.60	per DS-0 equivalent/month
Switched	$23,728,800	156,909	Trunks	$0.0013	per minute
Special	$61,994,854	409,947	Trunks		
2. Common	$3,997,177	2,534,149,415	Minutes	$0.0016	per minute per leg (orig or term)
3. Tandem switch	$2,538,903	2,271,275,207	Minutes	$0.0011	per minute
Operator systems	$4,200,610				
Total	$521,520,307				

Total cost of switched network elements $15.94 per line/month

COST OF NETWORK ELEMENTS

Arkansas *SOUTHWESTERN BELL - AR*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$12,288,011	$65,341,943	$22,165,737	$8,560,933	$38,089,994	$3,258,052	$149,704,670
Unit Cost/month	$30.51	$16.57	$11.13	$9.93	$9.25	$8.48	$12.79
Loop Concentration							
Annual Cost	$3,595,390	$15,961,410	$5,259,626	$1,493,861	$5,495,548	$337,388	$32,143,223
Unit Cost/month	$8.93	$4.05	$2.64	$1.73	$1.33	$0.88	$2.75
Loop Feeder							
Annual Cost	$540,357	$1,777,721	$1,035,756	$464,451	$3,241,805	$338,231	$7,398,321
Unit Cost/month	$1.34	$0.45	$0.52	$0.54	$0.79	$0.88	$0.63
Total Loop							
Annual Cost	$16,423,758	$83,081,073	$28,461,119	$10,519,245	$46,827,348	$3,933,671	$189,246,214
Unit Cost/month	$40.78	$21.07	$14.29	$12.20	$11.37	$10.24	$16.17
Total lines	33,561	328,603	166,009	71,849	343,292	32,013	975,326
Lines served by Digital Loop Carrier	33,561	317,162	102,255	28,987	106,755	6,298	595,017

	Annual Cost	Units		Unit Cost	
End office switching	$47,755,041				
1 Port	$14,326,512	855,950	Switched lines	$1.39	per line/month
2. Usage	$33,428,529	14,368,996,549	Minutes	$0.0023	per minute
Signaling network elements	$9,663,005				
1. Links	$60,706	272	Links	$18.60	per link/month
2. STP	$9,079,493	10,503,438,903	TCAP+ISUP messages	$0.0009	per message
3. SCP	$522,806	753,933,400	TCAP messages	$0.0007	per message
Transport network elements					
1. Dedicated	$27,739,685	181,272	Trunks	$12.75	per DS-0 equivalent/month
Switched	$9,471,761	61,896	Trunks	$0.0013	per minute
Special	$18,267,924	119,377	Trunks		
2. Common	$2,579,484	1,132,334,818	Minutes	$0.0023	per minute per leg (orig or term)
3. Tandem switch	$2,370,353	936,895,577	Minutes	$0.0025	per minute
Operator systems	$2,480,178				
Total	$276,039,520				
Total cost of switched network elements	$23.41	per line/month			

COST OF NETWORK ELEMENTS

California *PACIFIC BELL - CA*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$33,785,614	$130,590,774	$102,881,531	$41,801,191	$391,287,294	$595,829,294	$1,296,175,698
Unit Cost/month	$46.24	$13.00	$7.00	$5.97	$5.55	$5.04	$5.86
Loop Concentration							
Annual Cost	$6,799,099	$41,605,915	$45,559,654	$18,093,008	$128,671,487	$116,349,379	$357,078,542
Unit Cost/month	$9.31	$4.14	$3.10	$2.58	$1.82	$0.98	$1.61
Loop Feeder							
Annual Cost	$2,181,163	$5,131,312	$5,168,758	$2,743,387	$52,013,078	$107,196,085	$174,433,783
Unit Cost/month	$2.99	$0.51	$0.35	$0.39	$0.74	$0.91	$0.79
Total Loop							
Annual Cost	$42,765,877	$177,328,001	$153,609,943	$62,637,586	$571,971,858	$819,374,758	$1,827,688,023
Unit Cost/month	$58.53	$17.65	$10.45	$8.94	$8.11	$6.93	$8.26
Total lines	60,890	837,189	1,225,277	583,576	5,877,073	9,854,553	18,438,558
Lines served by Digital Loop Carrier	60,848	802,911	893,294	353,755	2,467,588	2,194,934	6,773,330

	Annual Cost	Units		Unit Cost	
End office switching	$707,674,707				
1 Port	$212,302,412	15,479,277	Switched lines	$1.14	per line/month
2. Usage	$495,372,295	230,141,339,661	Minutes	$0.0022	per minute
Signaling network elements	$47,349,666				
1. Links	$326,809	1,608	Links	$16.94	per link/month
2. STP	$35,778,983	184,177,295,101	TCAP+ISUP messages	$0.0002	per message
3. SCP	$11,243,875	12,480,864,000	TCAP messages	$0.0009	per message
Transport network elements					
1. Dedicated	$590,992,983	3,944,988	Trunks	$12.48	per DS-0 equivalent/month
Switched	$147,667,331	985,707	Trunks	$0.0012	per minute
Special	$443,325,652	2,959,281	Trunks		
2. Common	$35,223,697	21,345,730,186	Minutes	$0.0017	per minute per leg (orig or term)
3. Tandem switch	$12,574,383	16,491,963,305	Minutes	$0.0008	per minute
Operator systems	$21,384,178				
Total	$3,151,620,241				

Total cost of switched network elements $13.49 per line/month

COST OF NETWORK ELEMENTS

Colorado *MOUNTAIN BELL - CO*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$43,209,977	$44,498,696	$20,007,655	$8,485,663	$75,974,911	$43,645,785	$235,822,688
Unit Cost/month	$51.50	$11.99	$6.31	$5.54	$5.10	$4.62	$7.02
Loop Concentration							
Annual Cost	$8,430,569	$16,082,855	$9,659,677	$4,014,529	$35,396,190	$15,559,496	$89,143,317
Unit Cost/month	$10.05	$4.33	$3.04	$2.62	$2.38	$1.65	$2.65
Loop Feeder							
Annual Cost	$2,813,005	$1,830,664	$1,575,024	$729,565	$11,357,070	$7,488,840	$25,794,168
Unit Cost/month	$3.35	$0.49	$0.50	$0.48	$0.76	$0.79	$0.77
Total Loop							
Annual Cost	$54,453,551	$62,412,216	$31,242,356	$13,229,757	$122,728,172	$66,694,121	$350,760,172
Unit Cost/month	$64.90	$16.82	$9.85	$8.64	$8.24	$7.06	$10.44
Total lines	69,925	309,281	264,420	127,575	1,240,743	786,691	2,798,634
Lines served by Digital Loop Carrier	69,925	287,470	165,982	69,510	603,837	262,665	1,459,389

	Annual Cost	Units		Unit Cost	
End office switching	$145,656,760				
1 Port	$43,697,028	2,215,919	Switched lines	$1.64	per line/month
2. Usage	$101,959,732	37,397,367,626	Minutes	$0.0027	per minute
Signaling network elements	$9,565,359				
1. Links	$115,105	450	Links	$21.32	per link/month
2. STP	$7,686,821	25,203,964,676	TCAP+ISUP messages	$0.0003	per message
3. SCP	$1,763,433	1,853,713,800	TCAP messages	$0.0010	per message
Transport network elements					
1. Dedicated	$116,487,637	747,953	Trunks	$12.98	per DS-0 equivalent/month
Switched	$25,734,483	165,238	Trunks	$0.0013	per minute
Special	$90,753,154	582,715	Trunks		
2. Common	$7,248,289	2,766,206,015	Minutes	$0.0027	per minute per leg (orig or term)
3. Tandem switch	$3,090,534	2,447,043,723	Minutes	$0.0013	per minute
Operator systems	$5,442,895				
Total	$623,235,945				

Total cost of switched network elements $17.84 per line/month

COST OF NETWORK ELEMENTS

Connecticut *SOUTHERN NEW ENGLAND TEL CO - CT*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	*	$46,290,813	$44,921,209	$11,048,119	$56,108,453	$44,162,028	$202,537,386
Unit Cost/month	*	$11.64	$8.70	$7.91	$7.42	$6.76	$8.22
Loop Concentration							
Annual Cost	*	$17,605,516	$16,326,829	$3,149,056	$12,443,965	$4,119,236	$53,645,480
Unit Cost/month	*	$4.43	$3.16	$2.26	$1.64	$0.63	$2.18
Loop Feeder							
Annual Cost	*	$1,656,739	$2,416,837	$821,606	$6,798,190	$6,494,946	$18,190,297
Unit Cost/month	*	$0.42	$0.47	$0.59	$0.90	$0.99	$0.74
Total Loop							
Annual Cost	*	$65,553,068	$63,664,874	$15,018,781	$75,350,607	$54,776,210	$274,373,163
Unit Cost/month	*	$16.49	$12.32	$10.76	$9.96	$8.39	$11.14
Total lines	*	331,290	430,500	116,358	630,528	544,172	2,052,851
Lines served by Digital Loop Carrier	*	321,512	291,385	55,161	215,612	67,346	951,018

	Annual Cost	Units		Unit Cost	
End office switching	$90,878,851				
1 Port	$27,263,655	2,029,737	Switched lines	$1.12	per line/month
2 Usage	$63,615,196	32,952,790,090	Minutes	$0.0019	per minute
Signaling network elements	$4,259,437				
1 Links	$56,703	266	Links	$17.76	per link/month
2 STP	$2,960,582	21,789,429,875	TCAP+ISUP messages	$0.0001	per message
3 SCP	$1,242,153	1,553,366,800	TCAP messages	$0.0008	per message
Transport network elements					
1 Dedicated	$48,362,054	170,071	Trunks	$23.70	per DS-0 equivalent/month
Switched	$41,789,227	146,957	Trunks	$0.0024	per minute
Special	$6,572,827	23,114	Trunks		
2 Common	$6,133,522	3,008,540,762	Minutes	$0.0021	per minute per leg (orig or term)
3 Tandem switch	$2,550,314	2,477,453,226	Minutes	$0.0010	per minute
Operator systems	$3,820,234				
Total	$406,454,913				

Total cost of switched network elements $17.27 per line/month

* Insufficient data to perform meaningful calculations

COST OF NETWORK ELEMENTS

Delaware *DIAMOND STATE TEL - DE*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$45,016	$14,246,746	$6,114,697	$1,941,371	$9,739,106	$5,806,994	$37,893,929
Unit Cost/month	$44.07	$9.97	$6.09	$5.11	$4.93	$4.22	$6.14
Loop Concentration							
Annual Cost	$11,009	$6,656,926	$3,638,279	$1,220,510	$4,045,539	$2,296,676	$17,868,939
Unit Cost/month	$10.78	$4.66	$3.62	$3.21	$2.05	$1.67	$2.90
Loop Feeder							
Annual Cost	$6,912	$503,525	$286,242	$106,665	$1,633,208	$1,303,843	$3,840,395
Unit Cost/month	$6.77	$0.35	$0.28	$0.28	$0.83	$0.95	$0.62
Total Loop							
Annual Cost	$62,937	$21,407,196	$10,039,217	$3,268,546	$15,417,853	$9,407,514	$59,603,263
Unit Cost/month	$61.62	$14.99	$9.99	$8.60	$7.80	$6.83	$9.66
Total lines	85	119,043	83,724	31,669	164,635	114,766	513,922
Lines served by Digital Loop Carrier	85	116,844	64,538	21,496	68,237	39,413	310,614

	Annual Cost	Units		Unit Cost	
End office switching	$25,093,152				
1. Port	$7,527,946	482,463	Switched lines	$1.30	per line/month
2. Usage	$17,565,206	8,964,944,758	Minutes	$0.0020	per minute
Signaling network elements	$2,034,855				
1. Links	$57,239	72	Links	$66.25	per link/month
2. STP	$1,634,867	5,075,955,753	TCAP+ISUP messages	$0.0003	per message
3. SCP	$342,749	334,627,200	TCAP messages	$0.0010	per message
Transport network elements					
1. Dedicated	$15,167,970	70,098	Trunks	$18.03	per DS-0 equivalent/month
Switched	$8,360,920	38,639	Trunks	$0.0018	per minute
Special	$6,807,051	31,458	Trunks		
2. Common	$1,364,854	607,781,956	Minutes	$0.0023	per minute per leg (orig or term)
3. Tandem switch	$623,885	535,271,849	Minutes	$0.0012	per minute
Operator systems	$1,978,629				
Total	$100,750,049				

Total cost of switched network elements $16.48 per line/month

COST OF NETWORK ELEMENTS Dist. of Columbia *CHESAPEAKE & POTOMAC TEL CO OF DC - DC*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	*	$116,584	$810,283	$928,665	$12,749,399	$102,126,410	$116,731,341
Unit Cost/month	*	$18.27	$10.99	$10.68	$10.40	$9.57	$9.67
Loop Concentration							
Annual Cost	*	$1,901	$233,780	$90,136	$1,107,786	$3,915,989	$5,349,591
Unit Cost/month	*	$0.30	$3.17	$1.04	$0.90	$0.37	$0.44
Loop Feeder							
Annual Cost	*	$13,314	$58,342	$98,184	$1,466,128	$9,994,303	$11,630,271
Unit Cost/month	*	$2.09	$0.79	$1.13	$1.20	$0.94	$0.96
Total Loop							
Annual Cost	*	$131,800	$1,102,406	$1,116,984	$15,323,312	$116,036,701	$133,711,204
Unit Cost/month	*	$20.66	$14.96	$12.84	$12.50	$10.87	$11.08
Total lines	*	532	6,142	7,249	102,142	889,483	1,005,548
Lines served by Digital Loop Carrier	*	-	3,692	1,345	17,417	58,748	81,202

	Annual Cost	Units		Unit Cost	
End office switching	$46,835,015				
1. Port	$14,050,505	902,074	Switched lines	$1.30	per line/month
2. Usage	$32,784,511	12,448,745,523	Minutes	$0.0026	per minute
Signaling network elements	$3,112,956				
1. Links	$39,282	74	Links	$44.24	per link/month
2. STP	$2,004,459	9,203,585,305	TCAP+ISUP messages	$0.0002	per message
3. SCP	$1,069,216	624,781,000	TCAP messages	$0.0017	per message
Transport network elements					
1. Dedicated	$34,183,297	156,740	Trunks	$18.17	per DS-0 equivalent/month
Switched	$11,616,825	53,266	Trunks	$0.0018	per minute
Special	$22,566,471	103,474	Trunks		
2. Common	$166,891	755,319,615	Minutes	$0.0002	per minute per leg (orig or term)
3. Tandem switch	$1,311,499	689,226,155	Minutes	$0.0019	per minute
Operator systems	$1,826,278				
Total	$213,926,845				

Total cost of switched network elements $17.07 per line/month

* Insufficient data to perform meaningful calculations

COST OF NETWORK ELEMENTS

Florida *BELLSOUTH TELECOMM INC - FL*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$6,775,543	$69,573,963	$71,901,633	$35,493,143	$233,544,875	$139,804,153	$557,093,310
Unit Cost/month	$39.29	$13.52	$9.05	$7.91	$7.39	$6.69	$7.93
Loop Concentration							
Annual Cost	$1,598,132	$22,093,236	$30,141,507	$15,014,162	$79,443,016	$30,129,796	$178,419,850
Unit Cost/month	$9.27	$4.29	$3.79	$3.35	$2.51	$1.44	$2.54
Loop Feeder							
Annual Cost	$371,138	$2,370,907	$2,433,758	$1,405,871	$19,305,733	$15,593,545	$41,480,952
Unit Cost/month	$2.15	$0.46	$0.31	$0.31	$0.61	$0.75	$0.59
Total Loop							
Annual Cost	$8,744,813	$94,038,106	$104,476,898	$51,913,176	$332,293,625	$185,527,494	$776,994,112
Unit Cost/month	$50.71	$18.28	$13.15	$11.57	$10.51	$8.88	$11.06
Total lines	14,371	428,765	662,269	373,941	2,634,437	1,741,046	5,854,829
Lines served by Digital Loop Carrier	14,370	413,738	556,984	279,301	1,465,700	560,502	3,290,595

	Annual Cost	Units		Unit Cost	
End office switching	$254,184,988				
1. Port	$76,255,497	5,439,537	Switched lines	$1.17	per line/month
2. Usage	$177,929,492	93,536,345,969	Minutes	$0.0019	per minute
Signaling network elements	$31,406,206				
1. Links	$155,600	498	Links	$26.04	per link/month
2. STP	$27,617,885	69,726,028,861	TCAP+ISUP messages	$0.0004	per message
3. SCP	$3,632,722	4,977,664,600	TCAP messages	$0.0007	per message
Transport network elements					
1. Dedicated	$168,967,942	817,179	Trunks	$17.23	per DS-0 equivalent/month
Switched	$83,098,070	401,887	Trunks	$0.0017	per minute
Special	$85,869,872	415,292	Trunks		
2. Common	$11,096,014	6,712,943,744	Minutes	$0.0017	per minute per leg (orig or term)
3. Tandem switch	$7,098,363	5,741,842,366	Minutes	$0.0012	per minute
Operator systems	$8,252,847				
Total	$1,207,049,495				

Total cost of switched network elements $17.11 per line/month

COST OF NETWORK ELEMENTS

Georgia *BELLSOUTH TELECOMM INC - GA*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$6,717,455	$135,196,664	$79,155,023	$31,071,250	$106,826,186	$21,708,739	$380,675,317
Unit Cost/month	$25.29	$12.27	$7.62	$6.73	$6.36	$5.69	$8.12
Loop Concentration							
Annual Cost	$2,465,064	$48,015,429	$37,150,436	$13,698,058	$37,587,165	$7,621,747	$146,537,900
Unit Cost/month	$9.28	$4.36	$3.58	$2.97	$2.24	$2.00	$3.12
Loop Feeder							
Annual Cost	$42,348	$671,979	$656,443	$255,882	$2,173,766	$798,827	$4,599,243
Unit Cost/month	$0.16	$0.06	$0.06	$0.06	$0.13	$0.21	$0.10
Total Loop							
Annual Cost	$9,224,867	$183,884,072	$116,961,902	$45,025,190	$146,587,117	$30,129,313	$531,812,460
Unit Cost/month	$34.73	$16.69	$11.26	$9.75	$8.72	$7.90	$11.34
Total lines	22,133	918,139	865,654	384,771	1,400,336	317,868	3,908,901
Lines served by Digital Loop Carrier	22,125	905,421	686,872	252,544	688,289	141,648	2,696,899

	Annual Cost	Units		Unit Cost	
End office switching	$173,928,928				
1. Port	$52,178,678	3,447,867	Switched lines	$1.26	per line/month
2. Usage	$121,750,249	68,672,686,366	Minutes	$0.0018	per minute
Signaling network elements	$19,376,656				
1. Links	$90,825	412	Links	$18.37	per link/month
2. STP	$16,789,916	52,808,938,597	TCAP+ISUP messages	$0.0003	per message
3. SCP	$2,495,915	3,578,734,400	TCAP messages	$0.0007	per message
Transport network elements					
1. Dedicated	$139,496,541	744,740	Trunks	$15.61	per DS-0 equivalent/month
Switched	$53,140,774	283,707	Trunks	$0.0016	per minute
Special	$86,355,767	461,034	Trunks		
2. Common	$7,988,918	4,299,871,475	Minutes	$0.0019	per minute per leg (orig or term)
3. Tandem switch	$5,083,701	3,624,902,017	Minutes	$0.0014	per minute
Operator systems	$6,674,259				
Total	$849,045,405				

Total cost of switched network elements $17.77 per line/month

COST OF NETWORK ELEMENTS

Idaho *MOUNTAIN BELL - ID*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$14,925,611	$15,371,919	$6,024,592	$1,604,841	$12,887,560	$2,267,887	$53,082,411
Unit Cost/month	$37.24	$10.41	$5.61	$4.92	$4.56	$4.17	$7.98
Loop Concentration							
Annual Cost	$3,254,443	$5,385,599	$2,190,487	$600,369	$4,508,377	$433,459	$16,372,734
Unit Cost/month	$8.12	$3.65	$2.04	$1.84	$1.59	$0.80	$2.46
Loop Feeder							
Annual Cost	$838,811	$634,521	$495,374	$146,167	$1,821,340	$442,052	$4,378,265
Unit Cost/month	$2.09	$0.43	$0.46	$0.45	$0.64	$0.81	$0.66
Total Loop							
Annual Cost	$19,018,865	$21,392,039	$8,710,454	$2,351,378	$19,217,277	$3,143,398	$73,833,410
Unit Cost/month	$47.46	$14.49	$8.12	$7.20	$6.79	$5.78	$11.11
Total lines	33,397	123,026	89,427	27,209	235,696	45,292	554,046
Lines served by Digital Loop Carrier	33,397	114,696	45,553	12,371	93,517	8,780	308,314

	Annual Cost	Units		Unit Cost	
End office switching	$25,150,532				
1. Port	$7,545,160	470,722	Switched lines	$1.34	per line/month
2. Usage	$17,605,372	6,158,270,915	Minutes	$0.0029	per minute
Signaling network elements	$3,324,569				
1. Links	$42,640	172	Links	$20.66	per link/month
2. STP	$3,003,398	4,461,867,365	TCAP+ISUP messages	$0.0007	per message
3. SCP	$278,531	337,918,600	TCAP messages	$0.0008	per message
Transport network elements					
1. Dedicated	$13,324,326	110,708	Trunks	$10.03	per DS-0 equivalent/month
Switched	$3,295,850	27,384	Trunks	$0.0010	per minute
Special	$10,028,476	83,324	Trunks		
2. Common	$3,248,887	512,560,112	Minutes	$0.0064	per minute per leg (orig or term)
3. Tandem switch	$509,520	435,964,561	Minutes	$0.0012	per minute
Operator systems	$2,267,846				
Total	$119,766,134				

Total cost of switched network elements $17.80 per line/month

COST OF NETWORK ELEMENTS

Illinois *ILLINOIS BELL TEL CO - IL*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$2,637,604	$72,360,659	$63,644,930	$28,202,981	$201,928,242	$262,539,145	$631,313,562
Unit Cost/month	$31.17	$13.93	$8.62	$7.83	$7.13	$6.35	$7.35
Loop Concentration							
Annual Cost	$810,040	$21,421,035	$22,010,707	$8,953,882	$55,787,000	$34,123,992	$143,106,657
Unit Cost/month	$9.57	$4.12	$2.98	$2.49	$1.97	$0.83	$1.67
Loop Feeder							
Annual Cost	$139,690	$2,712,733	$3,930,907	$1,996,143	$27,464,678	$52,696,707	$88,940,858
Unit Cost/month	$1.65	$0.52	$0.53	$0.55	$0.97	$1.28	$1.04
Total Loop							
Annual Cost	$3,587,334	$96,494,427	$89,586,544	$39,153,007	$285,179,921	$349,359,844	$863,361,077
Unit Cost/month	$42.40	$18.57	$12.14	$10.88	$10.08	$8.45	$10.05
Total lines	7,051	432,982	615,181	299,995	2,358,754	3,443,929	7,157,892
Lines served by Digital Loop Carrier	7,044	401,690	410,926	167,676	1,043,407	619,559	2,650,302

	Annual Cost	Units		Unit Cost	
End office switching	$314,623,269				
1. Port	$94,386,981	5,935,964	Switched lines	$1.33	per line/month
2. Usage	$220,236,288	95,856,152,367	Minutes	$0.0023	per minute
Signaling network elements	$51,429,979				
1. Links	$146,784	696	Links	$17.57	per link/month
2. STP	$47,159,589	68,911,472,622	TCAP+ISUP messages	$0.0007	per message
3. SCP	$4,123,606	4,508,580,200	TCAP messages	$0.0009	per message
Transport network elements					
1. Dedicated	$360,421,094	1,621,878	Trunks	$18.52	per DS-0 equivalent/month
Switched	$88,878,692	399,950	Trunks	$0.0018	per minute
Special	$271,542,402	1,221,928	Trunks		
2. Common	$24,429,859	5,732,147,750	Minutes	$0.0014	per minute per leg (orig or term)
3. Tandem switch	$18,775,262	5,018,818,475	Minutes	$0.0037	per minute
Operator systems	$23,627,140				
Total	$1,626,285,096				
Total cost of switched network elements	$17.38	per line/month			

COST OF NETWORK ELEMENTS

Indiana *INDIANA BELL TEL CO INC - IN*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$1,079,225	$58,800,196	$31,524,694	$12,477,851	$77,298,697	$28,838,899	$210,019,562
Unit Cost/month	$25.12	$11.95	$7.58	$6.69	$6.27	$5.72	$7.40
Loop Concentration							
Annual Cost	$393,387	$20,145,025	$11,928,216	$4,293,010	$22,608,848	$6,334,857	$65,703,343
Unit Cost/month	$9.16	$4.10	$2.87	$2.30	$1.83	$1.26	$2.32
Loop Feeder							
Annual Cost	$57,635	$2,063,169	$1,763,192	$972,693	$8,877,962	$4,622,866	$18,357,517
Unit Cost/month	$1.34	$0.42	$0.42	$0.52	$0.72	$0.92	$0.65
Total Loop							
Annual Cost	$1,530,247	$81,008,390	$45,216,103	$17,743,555	$108,785,506	$39,796,621	$294,080,422
Unit Cost/month	$35.62	$16.47	$10.87	$9.51	$8.82	$7.89	$10.37
Total lines	3,580	409,949	346,542	155,420	1,027,744	420,255	2,363,490
Lines served by Digital Loop Carrier	3,580	388,354	229,614	82,464	433,499	119,697	1,257,209

	Annual Cost	Units		Unit Cost	
End office switching	$101,455,449				
1. Port	$30,436,635	1,966,084	Switched lines	$1.29	per line/month
2. Usage	$71,018,814	32,210,364,287	Minutes	$0.0022	per minute
Signaling network elements	$14,712,406				
1. Links	$76,322	354	Links	$17.97	per link/month
2. STP	$13,245,452	22,709,026,138	TCAP+ISUP messages	$0.0006	per message
3. SCP	$1,390,632	1,576,612,200	TCAP messages	$0.0009	per message
Transport network elements					
1. Dedicated	$79,169,254	534,896	Trunks	$12.33	per DS-0 equivalent/month
Switched	$20,349,595	137,489	Trunks	$0.0012	per minute
Special	$58,819,659	397,407	Trunks		
2. Common	$2,875,712	2,219,624,980	Minutes	$0.0013	per minute per leg (orig or term)
3. Tandem switch	$5,298,142	1,909,007,822	Minutes	$0.0028	per minute
Operator systems	$2,916,758				
Total	$487,805,331				
Total cost of switched network elements	$16.63	per line/month			

COST OF NETWORK ELEMENTS

Iowa *NORTHWESTERN BELL - IA*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$6,097,742	$29,896,115	$13,077,020	$3,984,204	$33,181,305	$10,787,983	$97,024,369
Unit Cost/month	$23.65	$10.55	$6.39	$5.52	$5.08	$4.57	$6.58
Loop Concentration							
Annual Cost	$2,231,065	$10,454,015	$4,719,608	$971,293	$7,754,068	$1,762,943	$27,892,991
Unit Cost/month	$8.65	$3.69	$2.31	$1.35	$1.19	$0.75	$1.89
Loop Feeder							
Annual Cost	$316,683	$1,418,868	$1,136,932	$478,287	$5,137,184	$1,870,459	$10,358,412
Unit Cost/month	$1.23	$0.50	$0.56	$0.66	$0.79	$0.79	$0.70
Total Loop							
Annual Cost	$8,645,489	$41,768,998	$18,933,560	$5,433,784	$46,072,557	$14,421,384	$135,275,772
Unit Cost/month	$33.54	$14.73	$9.25	$7.52	$7.06	$6.11	$9.17
Total lines	21,482	236,224	170,482	60,176	543,860	196,560	1,228,784
Lines served by Digital Loop Carrier	21,482	210,214	93,105	18,799	149,820	33,251	526,671

	Annual Cost	Units		Unit Cost	
End office switching	$54,568,257				
1. Port	$16,370,477	996,849	Switched lines	$1.37	per line/month
2. Usage	$38,197,780	14,748,700,652	Minutes	$0.0026	per minute
Signaling network elements	$13,671,939				
1. Links	$66,883	308	Links	$18.10	per link/month
2. STP	$12,972,947	9,551,596,264	TCAP+ISUP messages	$0.0014	per message
3. SCP	$632,109	714,926,200	TCAP messages	$0.0009	per message
Transport network elements					
1. Dedicated	$38,747,269	297,475	Trunks	$10.85	per DS-0 equivalent/month
Switched	$8,536,810	65,540	Trunks	$0.0011	per minute
Special	$30,210,459	231,935	Trunks		
2. Common	$3,446,847	1,178,736,633	Minutes	$0.0030	per minute per leg (orig or term)
3. Tandem switch	$2,626,309	1,018,390,654	Minutes	$0.0026	per minute
Operator systems	$2,742,814				
Total	$246,176,346				

Total cost of switched network elements $16.33 per line/month

COST OF NETWORK ELEMENTS

Kansas *SOUTHWESTERN BELL - KS*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$17,852,743	$51,811,727	$20,881,476	$8,536,385	$82,031,226	$16,105,149	$197,218,706
Unit Cost/month	$50.82	$16.02	$10.83	$9.78	$9.06	$8.36	$11.36
Loop Concentration							
Annual Cost	$3,120,823	$12,504,934	$4,996,955	$1,597,637	$15,598,231	$2,607,344	$40,425,925
Unit Cost/month	$8.88	$3.87	$2.59	$1.83	$1.72	$1.35	$2.33
Loop Feeder							
Annual Cost	$1,500,127	$1,389,348	$1,117,984	$508,727	$6,652,158	$1,439,135	$12,607,479
Unit Cost/month	$4.27	$0.43	$0.58	$0.58	$0.73	$0.75	$0.73
Total Loop							
Annual Cost	$22,473,693	$65,706,009	$26,996,415	$10,642,748	$104,281,615	$20,151,629	$250,252,110
Unit Cost/month	$63.98	$20.31	$14.00	$12.20	$11.52	$10.46	$14.41
Total lines	29,273	269,571	160,704	72,713	754,309	160,609	1,447,179
Lines served by Digital Loop Carrier	29,271	253,961	100,215	32,113	314,766	52,484	782,809

	Annual Cost	Units		Unit Cost	
End office switching	$68,721,327				
1. Port	$20,616,398	1,198,831	Switched lines	$1.43	per line/month
2. Usage	$48,104,929	17,795,644,792	Minutes	$0.0027	per minute
Signaling network elements	$10,735,476				
1. Links	$94,715	338	Links	$23.35	per link/month
2. STP	$9,832,734	12,674,748,366	TCAP+ISUP messages	$0.0008	per message
3. SCP	$808,027	917,029,200	TCAP messages	$0.0009	per message
Transport network elements					
1. Dedicated	$48,534,918	327,322	Trunks	$12.36	per DS-0 equivalent/month
Switched	$11,710,209	78,974	Trunks	$0.0012	per minute
Special	$36,824,709	248,348	Trunks		
2. Common	$5,758,394	1,383,161,444	Minutes	$0.0043	per minute per leg (orig or term)
3. Tandem switch	$3,991,293	1,206,504,069	Minutes	$0.0033	per minute
Operator systems	$4,143,865				
Total	$385,371,663				

Total cost of switched network elements $21.71 per line/month

COST OF NETWORK ELEMENTS

Kentucky *BELLSOUTH TELECOMM INC - KY*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$1,916,674	$72,004,134	$15,258,792	$4,122,364	$31,369,712	$14,185,904	$138,857,580
Unit Cost/month	$29.55	$15.03	$8.72	$7.48	$6.97	$6.17	$9.95
Loop Concentration							
Annual Cost	$586,015	$20,058,478	$4,377,829	$1,544,734	$7,136,633	$2,446,998	$36,150,687
Unit Cost/month	$9.04	$4.19	$2.50	$2.80	$1.59	$1.06	$2.59
Loop Feeder							
Annual Cost	$140,806	$2,696,711	$937,445	$257,018	$3,416,550	$2,268,449	$9,716,979
Unit Cost/month	$2.17	$0.56	$0.54	$0.47	$0.76	$0.99	$0.70
Total Loop							
Annual Cost	$2,643,495	$94,759,324	$20,574,066	$5,924,116	$41,922,896	$18,901,351	$184,725,247
Unit Cost/month	$40.76	$19.78	$11.76	$10.75	$9.31	$8.23	$13.24
Total lines	5,405	399,159	145,813	45,933	375,050	191,484	1,162,844
Lines served by Digital Loop Carrier	5,405	388,161	80,542	28,351	129,273	43,245	674,978

	Annual Cost	Units		Unit Cost	
End office switching	$60,327,414				
1. Port	$18,098,224	1,074,780	Switched lines	$1.40	per line/month
2. Usage	$42,229,190	20,403,059,470	Minutes	$0.0021	per minute
Signaling network elements	$9,814,207				
1. Links	$78,033	358	Links	$18.16	per link/month
2. STP	$9,102,444	14,826,746,281	TCAP+ISUP messages	$0.0006	per message
3. SCP	$633,731	1,004,556,600	TCAP messages	$0.0006	per message
Transport network elements					
1. Dedicated	$32,946,580	171,203	Trunks	$16.04	per DS-0 equivalent/month
Switched	$15,999,394	83,139	Trunks	$0.0016	per minute
Special	$16,947,187	88,064	Trunks		
2. Common	$2,984,071	1,285,009,043	Minutes	$0.0024	per minute per leg (orig or term)
3. Tandem switch	$3,190,968	1,052,982,884	Minutes	$0.0030	per minute
Operator systems	$3,116,511				
Total	$286,225,548				

Total cost of switched network elements $20.64 per line/month

COST OF NETWORK ELEMENTS

Louisiana *BELLSOUTH TELECOMM INC - LA*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$15,205,987	$90,308,018	$35,463,959	$12,665,560	$75,179,545	$47,637,720	$276,460,789
Unit Cost/month	$32.99	$15.96	$10.35	$9.02	$8.29	$7.48	$10.48
Loop Concentration							
Annual Cost	$4,235,568	$24,222,410	$10,205,026	$3,661,960	$17,211,650	$6,941,926	$66,478,539
Unit Cost/month	$9.19	$4.28	$2.98	$2.61	$1.90	$1.09	$2.52
Loop Feeder							
Annual Cost	$22,438	$338,487	$344,481	$130,563	$1,986,649	$1,928,290	$4,750,910
Unit Cost/month	$0.05	$0.06	$0.10	$0.09	$0.22	$0.30	$0.18
Total Loop							
Annual Cost	$19,463,994	$114,868,915	$46,013,466	$16,458,083	$94,377,844	$56,507,936	$347,690,239
Unit Cost/month	$42.23	$20.30	$13.43	$11.72	$10.41	$8.87	$13.18
Total lines	38,407	471,449	285,555	117,060	755,584	530,942	2,198,997
Lines served by Digital Loop Carrier	38,407	451,650	181,412	65,368	299,666	118,210	1,154,712

	Annual Cost	Units		Unit Cost	
End office switching	$109,299,559				
1 Port	$32,789,868	2,057,191	Switched lines	$1.33	per line/month
2. Usage	$76,509,691	34,109,471,374	Minutes	$0.0022	per minute
Signaling network elements	$13,666,733				
1. Links	$105,827	470	Links	$18.76	per link/month
2. STP	$12,305,281	34,716,697,707	TCAP+ISUP messages	$0.0004	per message
3. SCP	$1,255,625	2,278,352,600	TCAP messages	$0.0006	per message
Transport network elements					
1. Dedicated	$59,194,344	287,218	Trunks	$17.17	per DS-0 equivalent/month
Switched	$29,968,881	145,413	Trunks	$0.0017	per minute
Special	$29,225,463	141,805	Trunks		
2. Common	$4,262,073	2,133,015,486	Minutes	$0.0020	per minute per leg (orig or term)
3. Tandem switch	$4,246,216	1,886,529,494	Minutes	$0.0023	per minute
Operator systems	$4,612,357				
Total	$523,973,225				

Total cost of switched network elements $18.74 per line/month

COST OF NETWORK ELEMENTS

Maine *NEW ENGLAND TEL CO - ME*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$7,441,979	$41,176,767	$8,512,002	$1,726,185	$7,559,799	$5,327,211	$71,743,944
Unit Cost/month	$76.30	$11.39	$6.38	$5.50	$5.22	$4.63	$9.01
Loop Concentration							
Annual Cost	$871,616	$13,992,353	$2,876,204	$388,008	$1,058,954	$403,558	$19,590,693
Unit Cost/month	$8.94	$3.87	$2.16	$1.24	$0.73	$0.35	$2.46
Loop Feeder							
Annual Cost	$326,257	$1,626,787	$685,841	$164,672	$1,136,733	$788,818	$4,729,108
Unit Cost/month	$3.35	$0.45	$0.51	$0.52	$0.78	$0.69	$0.59
Total Loop							
Annual Cost	$8,639,852	$56,795,907	$12,074,048	$2,278,865	$9,755,486	$6,519,587	$96,063,745
Unit Cost/month	$88.59	$15.71	$9.05	$7.26	$6.73	$5.67	$12.07
Total lines	8,128	301,293	111,167	26,161	120,782	95,793	663,324
Lines served by Digital Loop Carrier	8,126	287,549	57,536	7,717	20,512	7,189	388,629

	Annual Cost	Units		Unit Cost	
End office switching	$37,832,028				
1. Port	$11,349,608	620,772	Switched lines	$1.52	per line/month
2. Usage	$26,482,420	8,012,446,186	Minutes	$0.0033	per minute
Signaling network elements	$3,363,228				
1. Links	$67,883	284	Links	$19.92	per link/month
2. STP	$2,938,111	4,982,063,404	TCAP+ISUP messages	$0.0006	per message
3. SCP	$357,233	363,251,600	TCAP messages	$0.0010	per message
Transport network elements					
1. Dedicated	$14,526,660	77,876	Trunks	$15.54	per DS-0 equivalent/month
Switched	$6,589,301	35,325	Trunks	$0.0015	per minute
Special	$7,937,359	42,551	Trunks		
2. Common	$2,834,065	761,248,838	Minutes	$0.0038	per minute per leg (orig or term)
3. Tandem switch	$1,394,639	607,599,338	Minutes	$0.0023	per minute
Operator systems	$1,969,765				
Total	$154,147,108				

Total cost of switched network elements $19.32 per line/month

COST OF NETWORK ELEMENTS

Maryland *CHESAPEAKE & POTOMAC TEL CO OF MD - MD*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$821,114	$79,108,175	$43,659,053	$17,062,064	$113,961,267	$102,889,168	$357,500,840
Unit Cost/month	$33.84	$14.03	$9.58	$8.52	$7.93	$7.38	$8.82
Loop Concentration							
Annual Cost	$228,699	$24,511,887	$14,666,465	$5,478,680	$25,483,085	$7,480,451	$77,849,268
Unit Cost/month	$9.43	$4.35	$3.22	$2.74	$1.77	$0.54	$1.92
Loop Feeder							
Annual Cost	$52,170	$2,521,358	$1,645,936	$699,701	$9,809,125	$13,363,813	$28,092,104
Unit Cost/month	$2.15	$0.45	$0.36	$0.35	$0.68	$0.96	$0.69
Total Loop							
Annual Cost	$1,101,983	$106,141,420	$59,971,454	$23,240,445	$149,253,478	$123,733,432	$463,442,212
Unit Cost/month	$45.42	$18.82	$13.16	$11.61	$10.39	$8.88	$11.44
Total lines	2,022	470,031	379,776	166,824	1,197,192	1,161,334	3,377,178
Lines served by Digital Loop Carrier	2,018	448,861	266,146	100,309	466,368	127,573	1,411,275

	Annual Cost	Units		Unit Cost	
End office switching	$155,395,218				
1 Port	$46,618,566	3,209,678	Switched lines	$1.21	per line/month
2. Usage	$108,776,653	62,793,020,671	Minutes	$0.0017	per minute
Signaling network elements	$14,944,844				
1. Links	$108,340	460	Links	$19.63	per link/month
2. STP	$12,624,952	43,447,251,731	TCAP+ISUP messages	$0.0003	per message
3. SCP	$2,211,552	2,799,219,400	TCAP messages	$0.0008	per message
Transport network elements					
1. Dedicated	$99,244,127	428,884	Trunks	$19.28	per DS-0 equivalent/month
Switched	$60,484,570	261,385	Trunks	$0.0019	per minute
Special	$38,759,557	167,500	Trunks		
2. Common	$3,629,910	3,661,456,237	Minutes	$0.0010	per minute per leg (orig or term)
3. Tandem switch	$5,190,749	3,225,801,487	Minutes	$0.0016	per minute
Operator systems	$5,523,311				
Total	$707,720,716				

Total cost of switched network elements $17.80 per line/month